

FIG. 1

DNA Extraction Process-Post Seedwash

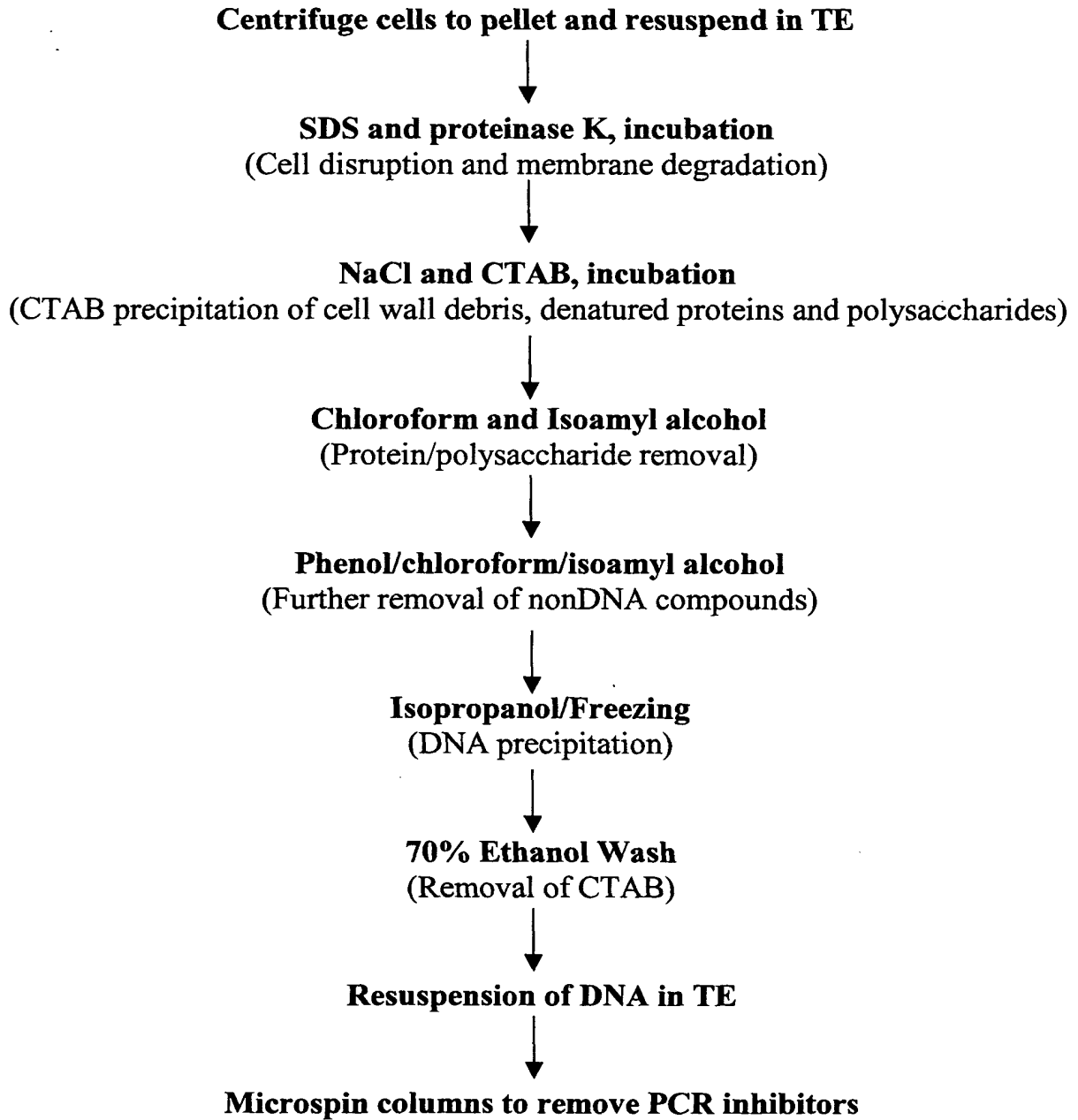
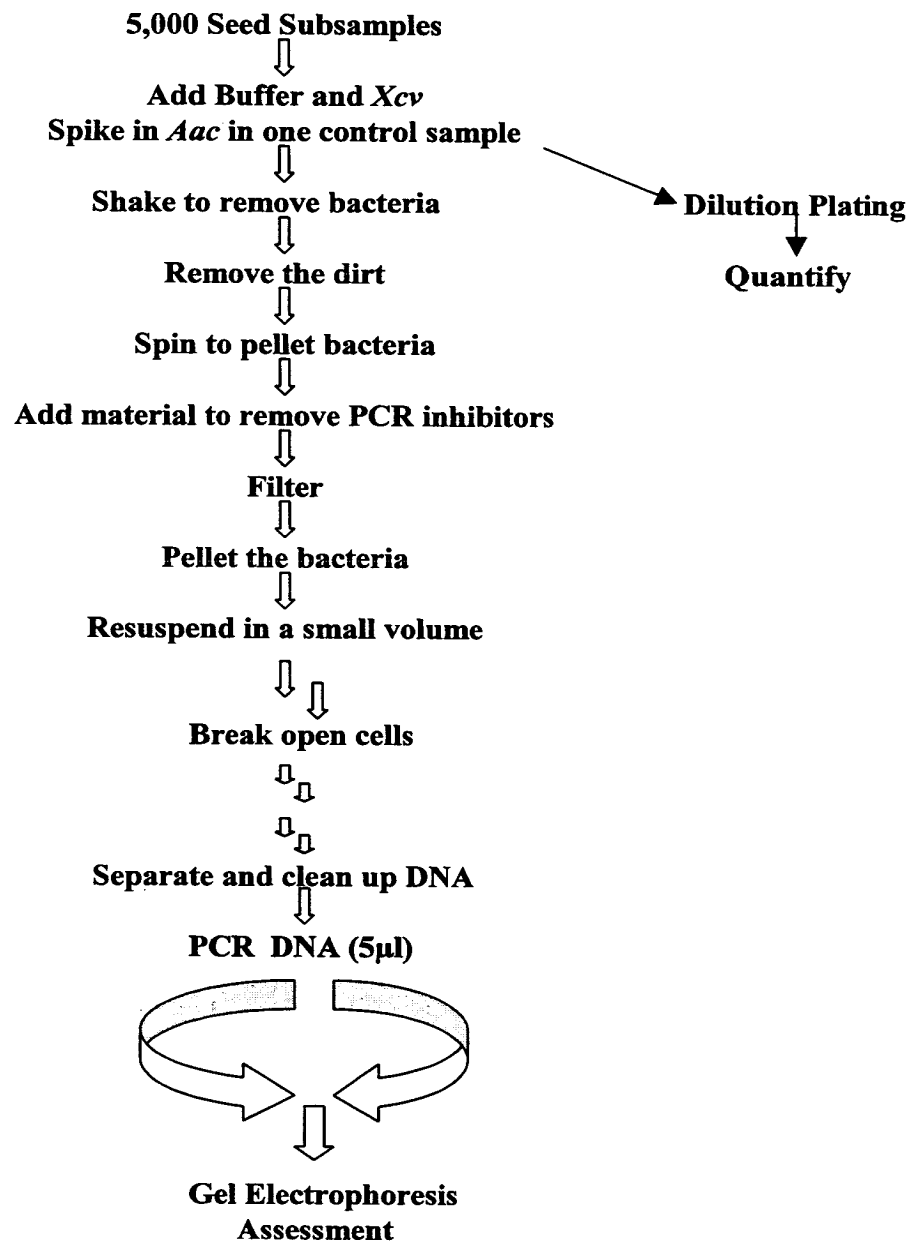


FIG. 2

BFB Polymerase Chain Reaction (PCR) Assay for Watermelon Seedlots



BFB-PCR Seed Health Testing-50Rxns (20 samples)

PCR #: 975

Fig. 3b

Acidovorax Reactions

Xanthomonas Reactions

	1	2	3	4	5	6	7	8	9	10	11	12
A	#1	#1	#9	#9	#17	#17	#1	#1	#9	#9	#17	#17
B	#2	#2	#10	#10	#18	#18	#2	#2	#10	#10	#18	#18
C	#3	#3	#11	#11	#19 Seed Control	#19 Seed Control	#3	#3	#11	#11	#19 Seed Control	#19 Seed Control
D	#4	#4	#12	#12	#20 Seed Control	#20 Seed Control	#4	#4	#12	#12	#20 Seed Control	#20 Seed Control
E	#5	#5	#13	#13	-H ₂ O control	-H ₂ O control	#5	#5	#13	#13	-H ₂ O control	-H ₂ O control
F	#6	#6	#14	#14	-TE control	-TE control	#6	#6	#14	#14	-TE control	-TE control
G	#7	#7	#15	#15	⊕DNA control Aac	⊕DNA control Aac	#7	#7	#15	#15	⊕DNA control Aac	⊕DNA control Aac
H	#8	#8	#16	#16	⊕DNA control Aac	⊕DNA control Aac	#8	#8	#16	#16	⊕DNA control Aac	⊕DNA control Aac

Fig. 3c

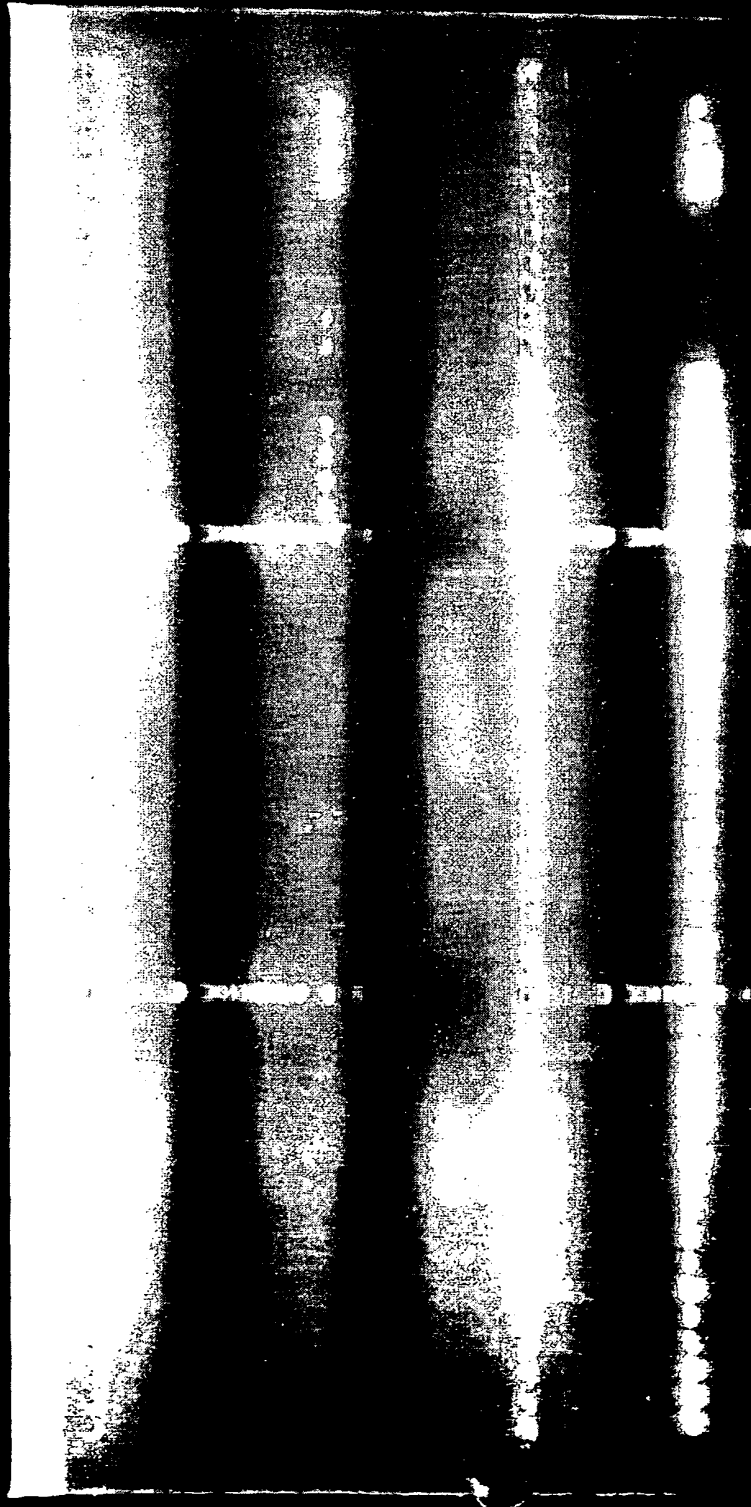


Fig. 4a

WFB PCR # 980

Gel Concentration: 2.0%

Buffer:0.5X TBE

Volts: 5.8 Watts: 8 mAmps: 24

On: 1:30 Off: 3:00 Temp: RT

2.5g, 5.0g, 7.0g, other

(circle one)

Volume of DNA sample: 5 μ ls

Total reaction volume: 50 μ ls

<u>Gel Lane</u>	<u>Aac</u> <u>Result</u>	<u>Xcv</u> <u>Result</u>	<u>Gel Lane</u>	<u>Aac</u> <u>Result</u>	<u>Xcv</u> <u>Result</u>	<u>Gel Lane</u>	<u>Aac</u> <u>Result</u>	<u>Xcv</u> <u>Result</u>
1. 1 <u>Aac</u> Rxns	—		37. 17	—		73. 11		+
2. 1			38. 18			74. 11		
3. 2			39. 18			75. 12		
4. 2			40. 19			76. 12		
5. 3			41. 19			77. 13		
6. 3			42. 20	+		78. 13		
7. 4			43. 20	+		79. 14		
8. 4			44. H ₂ O	—		80. 14		
9. 5			45. H ₂ O	—		81. 15		
10. 5			46. TE	—		82. 15		
11. 6			47. TE	—		83. 16		
12. 6			48. DNA Hi	+		84. 16		
13. 7			49. DNA Hi	+		85. Ladder		
14. 7			50. DNA Low	+		86. Ladder		
15. 8			51. DNA Low	+		87.17		+
16. 8			52. 1		+	88.17		
17. Ladder	—		53. 1			89.18		
18. 9			54. 2			90.18		
19. 9			55. 2			91. 19		
20. 10			56. 3			92. 19		
21. 10			57. 3			93.20		
22. 11			58. 4			94.20		
23. 11			59. 4			95. H ₂ O		
24. 12			60. 5		+	96. H ₂ O		
25. 12			61. 5		+	97. TE		
26. 13			62. 6		+	98. TE		
27. 13			63. 6			99. DNA Hi		+
28. 14			64. 7			100. DNA Hi		+
29. 14			65. 7			101. DNA Low		+
30. 15			66. 8			102. DNA Low		+
31. 15			67. 8			103.		+
32. 16			68. Ladder			104.		
33. 16			69. 9		+	105.		
34. Ladder	—		70. 9			106.		
35. Ladder	—		71. 10					
36. 17	—		72. 10					

Note: All samples are tested at a 1:50 dilution of the recovered(stock) DNA. NTC is a No Template Control

[illegible]

BFB-PCR Seed Health Testing-50Rxns (20 samples)

PCR #: 980

Acidovorax Reactions

Xanthomonas Reactions

	1	2	3	4	5	6	7	8	9	10	11	12
A	#1	#1	#9	#9	#17	#17	#1	#1	#9	#9	#17	#17
B	#2	#2	#10	#10	#18	#18	#2	#2	#10	#10	#18	#18
C	#3	#3	#11	#11	#19 Seed Control	#19 Seed Control	#3	#3	#11	#11	#19 Seed Control	#19 Seed Control
D	#4	#4	#12	#12	#20 Seed Control	#20 Seed Control	#4	#4	#12	#12	#20 Seed Control	#20 Seed Control
E	#5	#5	#13	#13	-H ₂ O control	-H ₂ O control	#5	#5	#13	#13	-H ₂ O control	-H ₂ O control
F	#6	#6	#14	#14	-TE control	-TE control	#6	#6	#14	#14	-TE control	-TE control
G	#7	#7	#15	#15	⊕DNA control Aac	⊕DNA control Aac	#7	#7	#15	#15	⊕DNA control Aac	⊕DNA control Aac
H	#8	#8	#16	#16	⊕DNA control Aac	⊕DNA control Aac	#8	#8	#16	#16	⊕DNA control Aac	⊕DNA control Aac

Fig. 4b

Fig. 4c

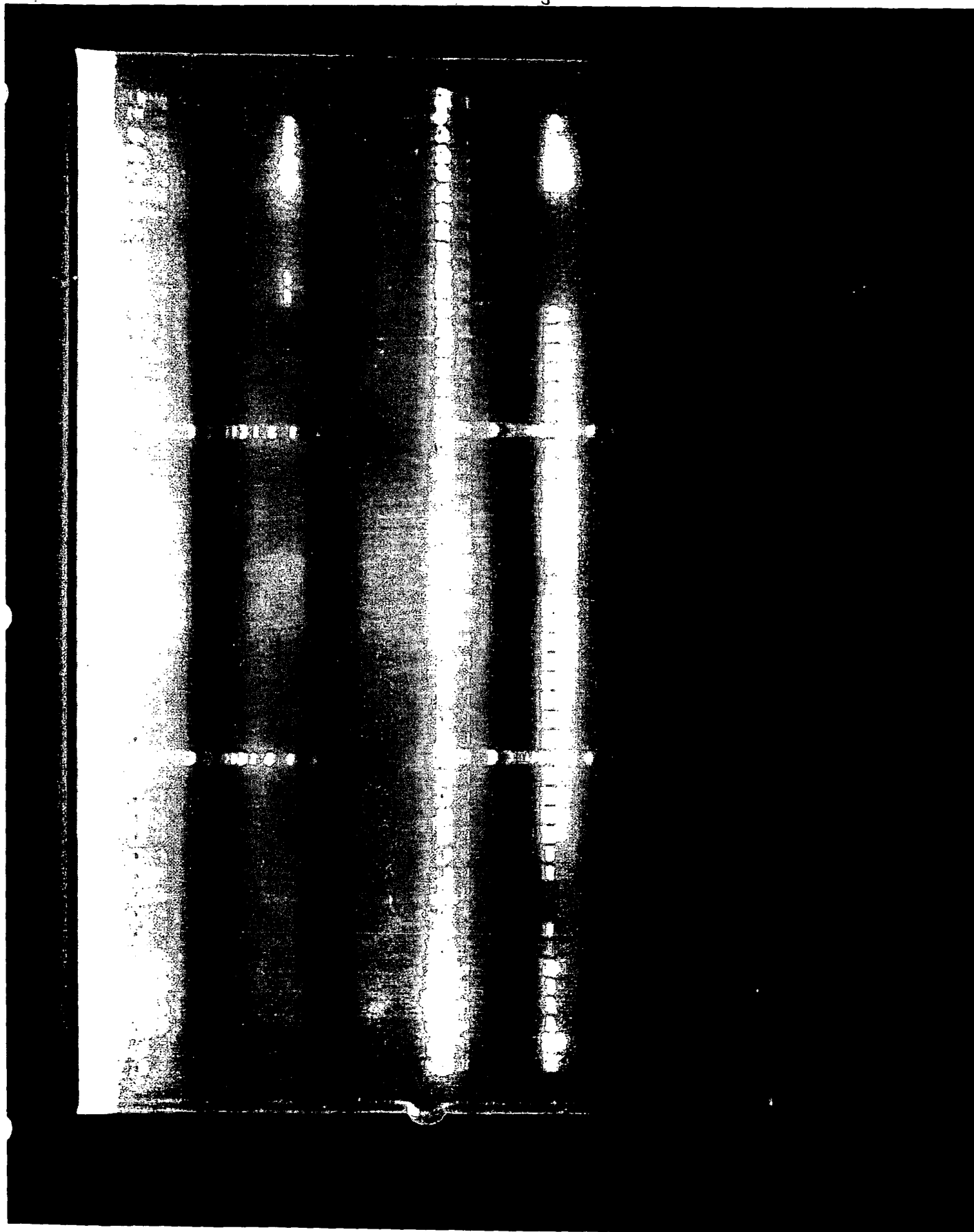


Fig. 5a

WFB PCR #98 /

Gel Concentration: 2.0%

Volts: 9.8 Watts: 7 mAmps: 92

On: 1:30 Off: 3:20 Temp: RT

2.5g, 5.0g, 7.0g, other _____
(circle one)

Total reaction volume: 50 μ ls

Note: All samples are tested at a 1:50 dilution of the recovered(stock) DNA. NTC is a No Template Control

[illegible]

BFB-PCR Seed Health Testing-50Rxns (20 samples)

PCR #: 981

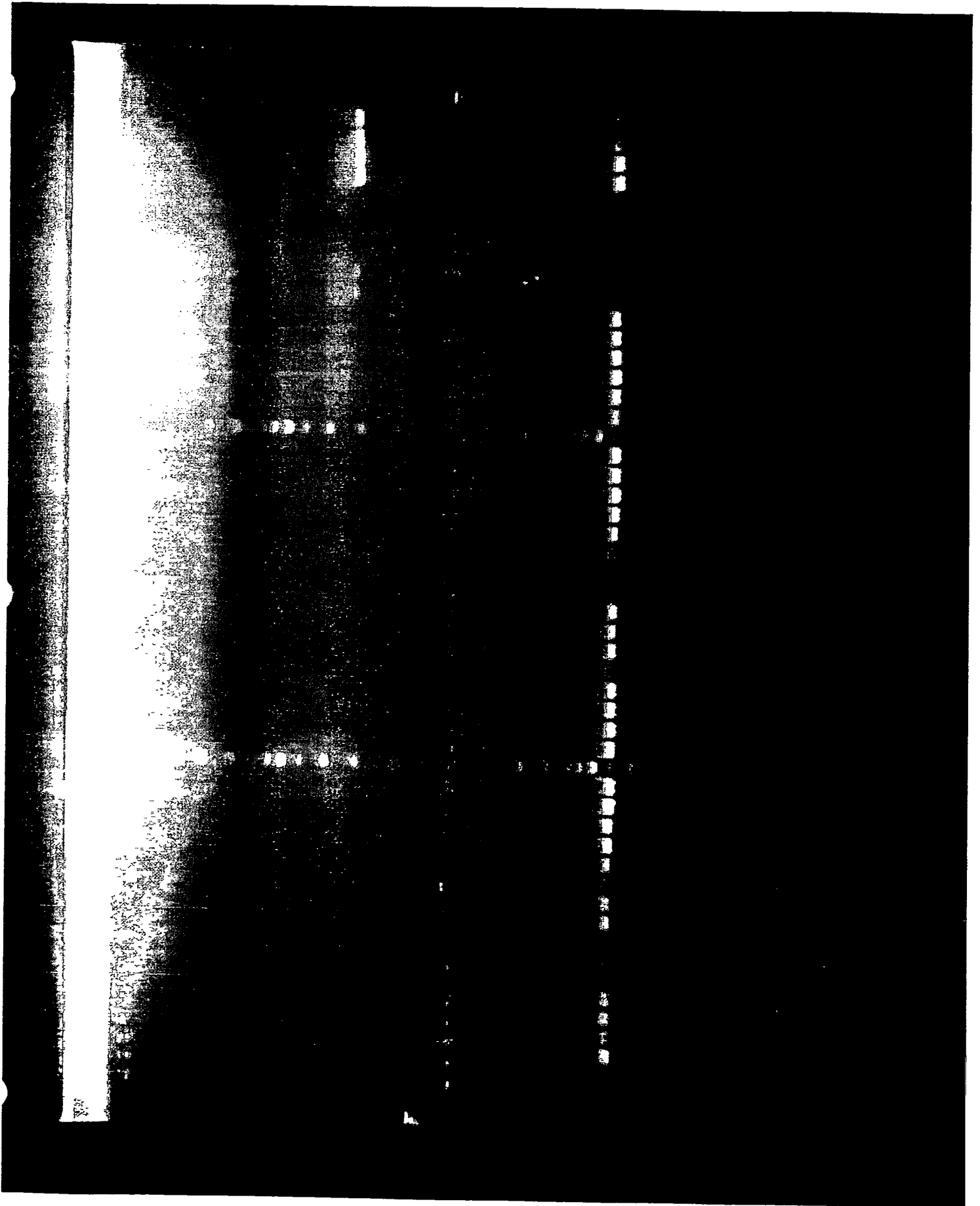
Fig. 56

Acidovorax Reactions

Xanthomonas Reactions

	1	2	3	4	5	6	7	8	9	10	11	12
A	#1	#1	#9	#9	#17	#17	#1	#1	#9	#9	#17	#17
B	#2	#2	#10	#10	#18	#18	#2	#2	#10	#10	#18	#18
C	#3	#3	#11	#11	#19 Seed Control	#19 Seed Control	#3	#3	#11	#11	#19 Seed Control	#19 Seed Control
D	#4	#4	#12	#12	#20 Seed Control	#20 Seed Control	#4	#4	#12	#12	#20 Seed Control	#20 Seed Control
E	#5	#5	#13	#13	-H ₂ O control	-H ₂ O control	#5	#5	#13	#13	-H ₂ O control	-H ₂ O control
F	#6	#6	#14	#14	-TE control	-TE control	#6	#6	#14	#14	-TE control	-TE control
G	#7	#7	#15	#15	⊕DNA control Aac	⊕DNA control Aac	#7	#7	#15	#15	⊕DNA control Aac	⊕DNA control Aac
H	#8	#8	#16	#16	⊕DNA control Aac	⊕DNA control Aac	#8	#8	#16	#16	⊕DNA control Aac	⊕DNA control Aac

Fig. 5c



Bacterial Fruit Blotch

Disease screen assay data sheet

WFB PCR #984

Fig. 6a

Electrophoresis information

Gel Concentration: 2.0%

Buffer: 0.5X TBE

Amount of agarose used;

Volts: 100 Watts: 8 mAmps: 98

2.5g, 5.0g, 1.0g, other _____

On: 1:15 Off: 2:45 Temp: RT

(circle one)

Volume of DNA sample: 5µls

Total reaction volume: 50µls

Gel Lane	Aac Result	Xcv Result	Gel Lane	Aac Result	Xcv Result	Gel Lane	Aac Result	Xcv Result
1. 1 <u>Aac</u> Rxns	—		37. 17	—		73. 11		+
2. 1	—		38. 18	—		74. 11		
3. 2	—		39. 18	—		75. 12		
4. 2	—		40. 19	—		76. 12		
5. 3	—		41. 19	—		77. 13		
6. 3	—		42. 20	+		78. 13		
7. 4	—		43. 20	+		79. 14		
8. 4	—		44. H ₂ O	—		80. 14		
9. 5	—		45. H ₂ O	—		81. 15		
10. 5	—		46. TE	—		82. 15		
11. 6	+		47. TE	—		83. 16		
12. 6	—		48. DNA Hi	+		84. 16		
13. 7	—		49. DNA Hi	+		85. Ladder		
14. 7	+		50. DNA Low	+		86. Ladder		
15. 8	—		51. DNA Low	+		87. 17		+
16. 8	+		52. 1		+	88. 17		
17. Ladder	—		53. 1			89. 18		
18. 9	—		54. 2			90. 18		
19. 9	—		55. 2			91. 19		
20. 10	—		56. 3			92. 19		
21. 10	—		57. 3			93. 20		
22. 11	—		58. 4			94. 20		
23. 11	—		59. 4			95. H ₂ O		
24. 12	—		60. 5			96. H ₂ O		
25. 12	—		61. 5			97. TE		
26. 13	—		62. 6			98. TE		
27. 13	—		63. 6			99. DNA Hi		+
28. 14	+		64. 7			100. DNA Hi		+
29. 14	+		65. 7			101. DNA Low		+
30. 15	+		66. 8			102. DNA Low		+
31. 15	+		67. 8			103.		
32. 16	—		68. Ladder		+	104.		
33. 16	—		69. 9			105.		
34. Ladder	—		70. 9			106.		
35. Ladder	—		71. 10					
36. 17	—		72. 10					

Note: All samples are tested at a 1:50 dilution of the recovered(stock) DNA. NTC is a No Template Control

Final Results:

Sample#s	1&2	3&4	5&6	7&8	9&10	11&12	13&14	15&16	17&18
Positive			✓	✓			✓	✓	
Negative	✓	✓			✓	✓			✓

BFB-PCR Seed Health Testing-50Rxns (20 samples)

PCR #: 984

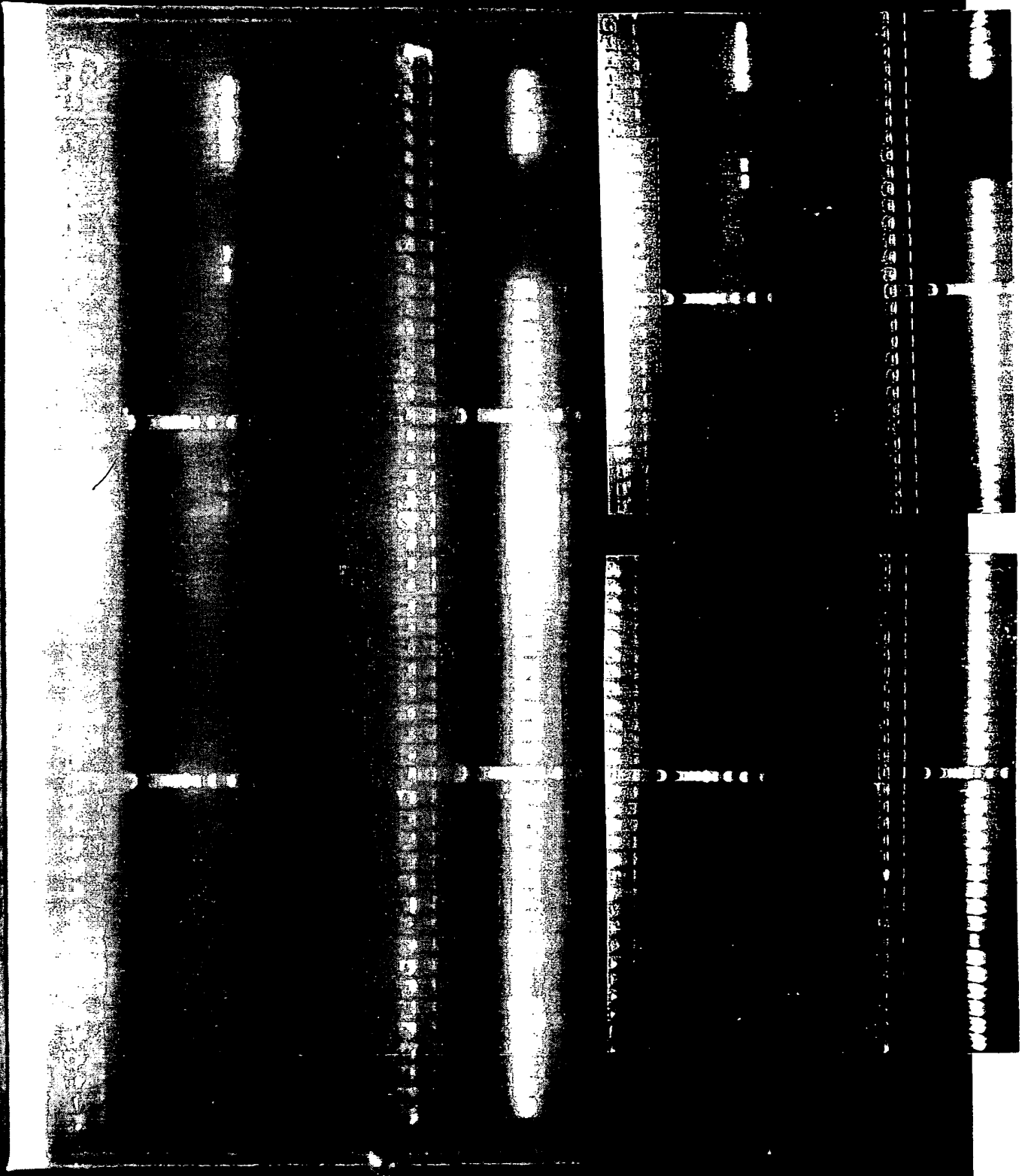
Fig. 6b

Acidovorax Reactions

Xanthomonas Reactions

	1	2	3	4	5	6	7	8	9	10	11	12
A	#1	#1	#9	#9	#17	#17	#1	#1	#9	#9	#17	#17
B	#2	#2	#10	#10	#18	#18	#2	#2	#10	#10	#18	#18
C	#3	#3	#11	#11	#19 Seed Control	#19 Seed Control	#3	#3	#11	#11	#19 Seed Control	#19 Seed Control
D	#4	#4	#12	#12	#20 Seed Control	#20 Seed Control	#4	#4	#12	#12	#20 Seed Control	#20 Seed Control
E	#5	#5	#13	#13	- H ₂ O control	- H ₂ O control	#5	#5	#13	#13	- H ₂ O control	- H ₂ O control
F	#6	#6	#14	#14	- TE control	- TE control	#6	#6	#14	#14	- TE control	- TE control
G	#7	#7	#15	#15	⊕DNA control Aac	⊕DNA control Aac	#7	#7	#15	#15	⊕DNA control Aac	⊕DNA control Aac
H	#8	#8	#16	#16	⊕DNA control Aac	⊕DNA control Aac	#8	#8	#16	#16	⊕DNA control Aac	⊕DNA control Aac

Fig. 6c



Bacterial Fruit Blotch

Fig. 7a

Disease screen assay data sheet

WFB PCR # 987

Electrophoresis information

Gel Concentration: 2.0% Buffer: 0.5X TBE

Volts: 100 Watts: 9 mAmps: 98

On: 2:00 Off: 3:30 Temp: RT

Amount of agarose used;

2.5g, 5.0g, 7.0g, other _____
(circle one)

Volume of DNA sample: 5µls

Total reaction volume: 50µls

Gel Lane	Aac Result	Xcv Result	Gel Lane	Aac Result	Xcv Result	Gel Lane	Aac Result	Xcv Result
1. 1 Aac Rxns	-		37. 17	+		73. 11		+
2. 1	-		38. 18	+		74. 11		
3. 2	-		39. 18	+		75. 12		
4. 2	-		40. 19	-		76. 12		
5. 3	+		41. 19	-		77. 13		
6. 3	+		42. 20	+		78. 13		
7. 4	+		43. 20	+		79. 14		
8. 4	+		44. H ₂ O	-		80. 14		
9. 5	+		45. H ₂ O	-		81. 15		
10. 5	+		46. TE	-		82. 15		
11. 6	+		47. TE	-		83. 16		
12. 6	+		48. DNA Hi	+		84. 16		
13. 7	-		49. DNA Hi	+		85. Ladder		
14. 7	-		50. DNA Low	+		86. Ladder		
15. 8	-		51. DNA Low	+		87. 17		+
16. 8	-		52. 1		+	88. 17		
17. Ladder			53. 1			89. 18		
18. 9	-		54. 2			90. 18		
19. 9	-		55. 2			91. 19		
20. 10	-		56. 3			92. 19		
21. 10	-		57. 3			93. 20		
22. 11	+		58. 4			94. 20		-
23. 11	+		59. 4			95. H ₂ O		-
24. 12	-		60. 5			96. H ₂ O		-
25. 12	-		61. 5			97. TE		-
26. 13	-		62. 6			98. TE		-
27. 13	-		63. 6			99. DNA Hi		+
28. 14	-		64. 7			100. DNA Hi		+
29. 14	-		65. 7			101. DNA Low		+
30. 15	+		66. 8			102. DNA Low		+
31. 15	+		67. 8			103.		+
32. 16	+		68. Ladder			104.		
33. 16	+		69. 9		+	105.		
34. Ladder			70. 9			106.		
35. Ladder			71. 10					
36. 17	+		72. 10					

Note: All samples are tested at a 1:50 dilution of the recovered(stock) DNA. NTC is a No Template Control

Final Results:

Sample#s	1&2	3&4	5&6	7&8	9&10	11&12	13&14	15&16	17&18
Positive		✓	✓	✓	✓	✓	✓	✓	✓
Negativ	✓			✓	✓		✓		

BFB-PCR Seed Health Testing-50Rxns (20 samples)

PCR #: 987

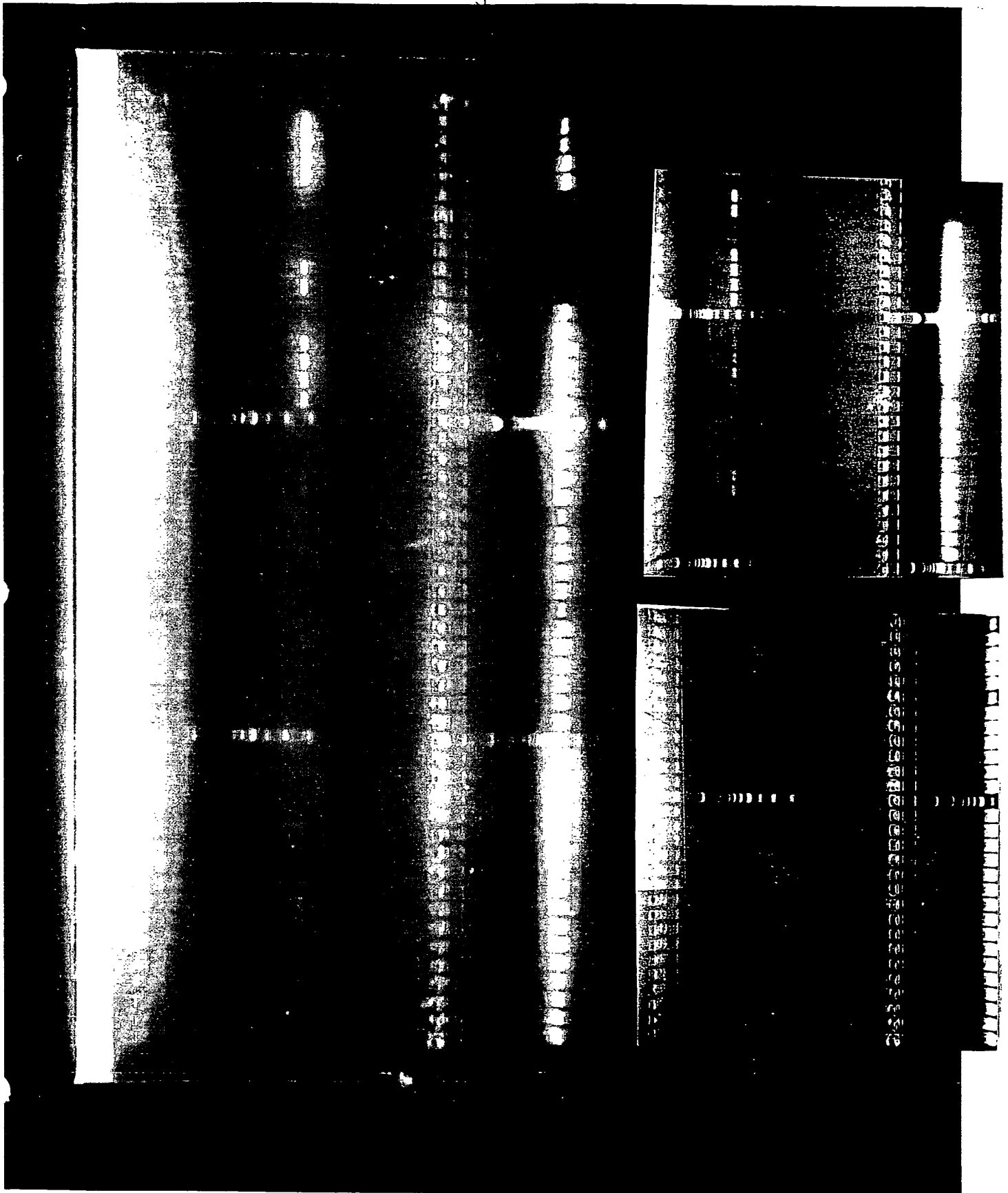
Fig 7b

Acidovorax Reactions

Xanthomonas Reactions

	1	2	3	4	5	6	7	8	9	10	11	12
A	#1	#1	#9	#9	#17	#17	#1	#1	#9	#9	#17	#17
B	#2	#2	#10	#10	#18	#18	#2	#2	#10	#10	#18	#18
C	#3	#3	#11	#11	#19 Seed Control	#19 Seed Control	#3	#3	#11	#11	#19 Seed Control	#19 Seed Control
D	#4	#4	#12	#12	#20 Seed Control	#20 Seed Control	#4	#4	#12	#12	#20 Seed Control	#20 Seed Control
E	#5	#5	#13	#13	-H ₂ O control	-H ₂ O control	#5	#5	#13	#13	-H ₂ O control	-H ₂ O control
F	#6	#6	#14	#14	-TE control	-TE control	#6	#6	#14	#14	-TE control	-TE control
G	#7	#7	#15	#15	⊕DNA control Aac	⊕DNA control Aac	#7	#7	#15	#15	⊕DNA control Aac	⊕DNA control Aac
H	#8	#8	#16	#16	⊕DNA control Aac	⊕DNA control Aac	#8	#8	#16	#16	⊕DNA control Aac	⊕DNA control Aac

Fig. 7c



Bacterial Fruit Blotch

Disease screen assay data sheet

WFB PCR # 993

Fig. 8a

Electrophoresis information

Gel Concentration: 2.0%

Buffer: 0.5X TBE

Volts: 130

Watts: 15

mAmps: 117

On: 1:40

Off: 3:00

Temp: RT

Amount of agarose used;

2.5g, 5.0g, 7.0g, other 12g/600ml

(circle one)

Run gel together with PCR

Volume of DNA sample: 5µls

Total reaction volume: 50µls

Gel Lane	Aac Result	Xcv Result	Gel Lane	Aac Result	Xcv Result	Gel Lane	Aac Result	Xcv Result
1. 1 Aac Rxns	+		37. 17	—		73. 11		+
2. 1	+		38. 18			74. 11		
3. 2	+		39. 18			75. 12		
4. 2	+		40. 19			76. 12		
5. 3	—		41. 19			77. 13		
6. 3	—		42. 20	+		78. 13		
7. 4	+		43. 20	+		79. 14		
8. 4	+		44. H ₂ O	—		80. 14		
9. 5	+		45. H ₂ O	—		81. 15		
10. 5	—		46. TE	—		82. 15		
11. 6	+		47. TE	—		83. 16		
12. 6	+		48. DNA Hi	+		84. 16		
13. 7	+		49. DNA Hi	+		85. Ladder		
14. 7	+		50. DNA Low	+		86. Ladder		
15. 8	—		51. DNA Low	+		87. 17		+
16. 8	+		52. 1		+	88. 17		
17. Ladder			53. 1			89. 18		
18. 9	—		54. 2			90. 18		
19. 9			55. 2			91. 19		
20. 10			56. 3			92. 19		
21. 10			57. 3			93. 20		
22. 11			58. 4			94. 20		—
23. 11			59. 4			95. H ₂ O		—
24. 12			60. 5			96. H ₂ O		—
25. 12			61. 5			97. TE		—
26. 13			62. 6			98. TE		—
27. 13			63. 6			99. DNA Hi		+
28. 14			64. 7			100. DNA Hi		+
29. 14			65. 7			101. DNA Low		+
30. 15			66. 8			102. DNA Low		+
31. 15			67. 8			103.		
32. 16			68. Ladder			104.		
33. 16			69. 9		+	105.		
34. Ladder			70. 9			106.		
35. Ladder			71. 10					
36. 17	—		72. 10					

Note: All samples are tested at a 1:50 dilution of the recovered(stock) DNA. NTC is a No Template Control

Final Results:

Sample#s	1&2	3&4	5&6	7&8	9&10	11&12	13&14	15&16	17&18
Positive	✓	✓	✓	✓	✓	✓	✓	✓	✓
Negative					✓	✓	✓	✓	✓

BFB-PCR Seed Health Testing-50Rxns (20 samples)

PCR #: 993

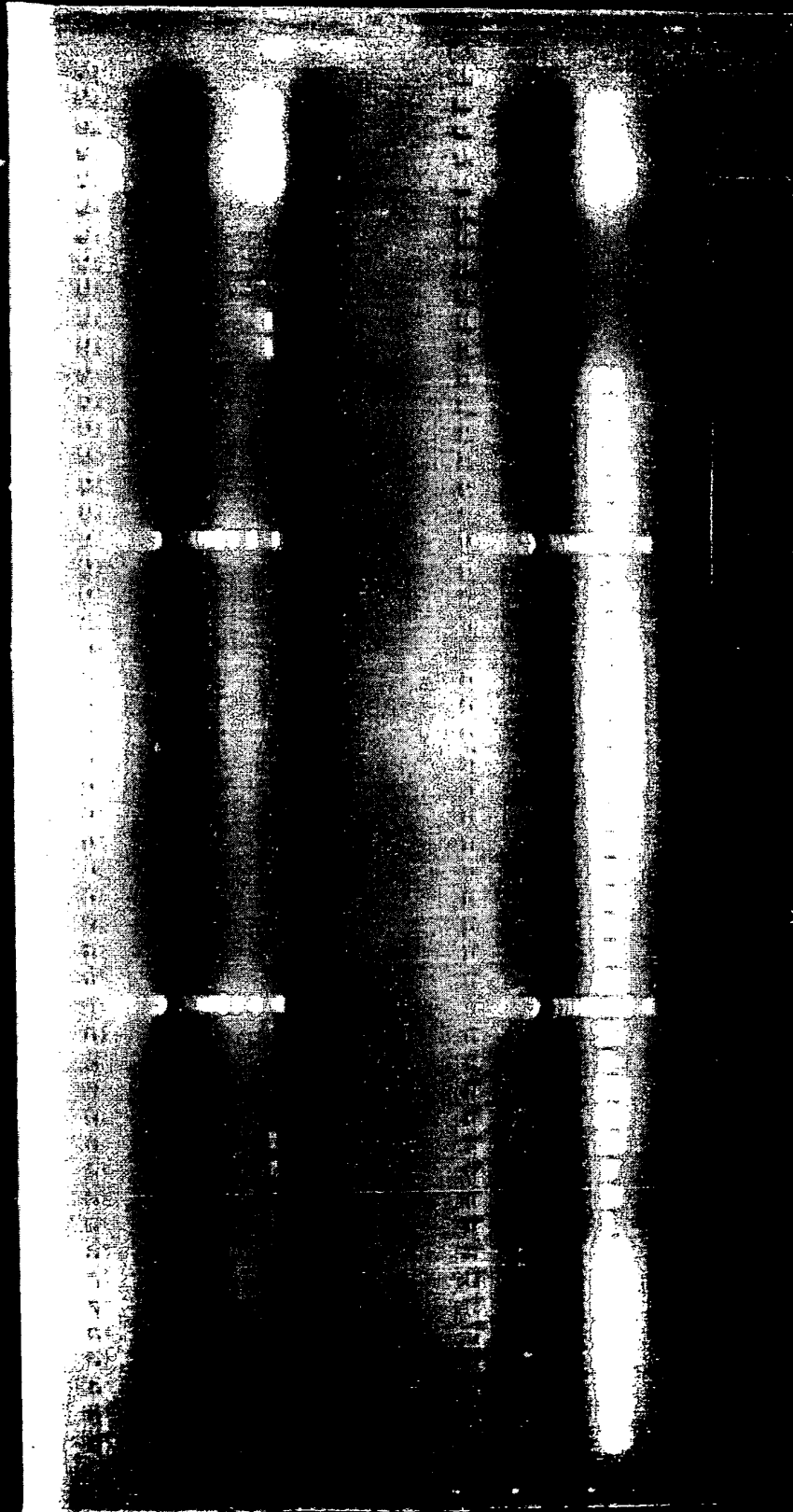
Fig 8b

Acidovorax Reactions

Xanthomonas Reactions

	1	2	3	4	5	6	7	8	9	10	11	12
A	#1	#1	#9	#9	#17	#17	#1	#1	#9	#9	#17	#17
B	#2	#2	#10	#10	#18	#18	#2	#2	#10	#10	#18	#18
C	#3	#3	#11	#11	#19 Seed Control	#19 Seed Control	#3	#3	#11	#11	#19 Seed Control	#19 Seed Control
D	#4	#4	#12	#12	#20 Seed Control	#20 Seed Control	#4	#4	#12	#12	#20 Seed Control	#20 Seed Control
E	#5	#5	#13	#13	- H ₂ O control	- H ₂ O control	#5	#5	#13	#13	- H ₂ O control	- H ₂ O control
F	#6	#6	#14	#14	- TE control	- TE control	#6	#6	#14	#14	- TE control	- TE control
G	#7	#7	#15	#15	⊕DNA control Aac	⊕DNA control Aac	#7	#7	#15	#15	⊕DNA control Aac X	⊕DNA control Aac X
H	#8	#8	#16	#16	⊕DNA control Aac	⊕DNA control Aac	#8	#8	#16	#16	⊕DNA control Aac X	⊕DNA control Aac X

Fig. 8c



BFB-PCR Seed Health Testing-50Rxns (20 samples)

PCR #: 976

Fig. 96

Acidovorax Reactions

Xanthomonas Reactions

	1	2	3	4	5	6	7	8	9	10	11	12
A	#1	#1	#9	#9	#17	#17	#1	#1	#9	#9	#17	#17
B	#2	#2	#10	#10	#18	#18	#2	#2	#10	#10	#18	#18
C	#3	#3	#11	#11	#19 Seed Control	#19 Seed Control	#3	#3	#11	#11	#19 Seed Control	#19 Seed Control
D	#4	#4	#12	#12	#20 Seed Control	#20 Seed Control	#4	#4	#12	#12	#20 Seed Control	#20 Seed Control
E	#5	#5	#13	#13	- H ₂ O control	- H ₂ O control	#5	#5	#13	#13	- H ₂ O control	- H ₂ O control
F	#6	#6	#14	#14	- TE control	- TE control	#6	#6	#14	#14	- TE control	- TE control
G	#7	#7	#15	#15	⊕DNA control Aac	⊕DNA control Aac	#7	#7	#15	#15	⊕DNA control Aac	⊕DNA control Aac
H	#8	#8	#16	#16	⊕DNA control Aac	⊕DNA control Aac	#8	#8	#16	#16	⊕DNA control Aac	⊕DNA control Aac

Fig. 9C

